seen by the following table. Column T contains theoretical harmonic wave-lengths; V contains Vogel's measurements:

	T	V
a.	$3968.4 \div 1 = 3968.4$	3968
B	$3968.4 \div (1 + 6 n) = 3886.6$	3887
γ	$3968.4 \div (1 + 10 n) = 3833.9$	3834
$\delta$	$3968.4 \div (1 + 13 \ n) = 3795.3$	3795
ε	$3968.4 \div (1 + 15 n) = 3770.$	3770

The divisors ( $\beta = 1 + 6 n$ ;  $\gamma = 1 + 10 n$ ; etc.) give the following proportions:

 $\beta-\alpha: \varepsilon-\alpha:$  mean v.v. of rotation : Equatorial v.v. of rotation.

 $\varepsilon - \gamma : \varepsilon - \beta : :$  wave v.v. : molecular v.v.

 $\varepsilon$ - $\delta$ :  $\varepsilon$ - $\gamma$ ::  $\beta$ - $\alpha$ :  $\varepsilon$ - $\alpha$ .

If we take  $n=\frac{1}{12}$ , Paalzow's oxygen lines \* (P) are also nearly harmonic (T<sub>1</sub>).

	$T_1$	$\mathrm{T}_2$	P
$602 \div 1$	== 602.	602.	603.
$602 \div (1 + n)$	= 555.7	558.2	558.2
$602 \div (1 + 2 n)$	= 516.	519.2	519.
$602 \div (1 + 3 n)$	=481.6	481.1	481.
$602 \div (1 + 4 n)$	=451.5	452.3	453.

The numbers in column T, are also harmonic, if we take  $n = \frac{1}{3} \frac{1}{8} \frac{1}{5}$ .

## Stated Meeting, May 7, 1880.

## Present, 15 members.

## President, Mr. Fraley, in the Chair.

Letters accepting membership were received from Mr. Ellis Yarnall, dated 105 S. Front Street, Philadelphia, April 21, 1880; Dr. Austin Flint, Jr., New York City, 14 West 33d Street, April 21; Mr. Joseph C. Fraley, 1833 Pine Street, Philadelphia, April 22; Mr. Horace Howard Furness, 222 West Washington Square, Philadelphia, April 24; Rev. George Dana Boardman, 3815 Walnut Street, West Philadelphia, April 26; Mr. J. Vaughan Merrick, Philadelphia, April 27; Mr. Wm. B. Rogers, Jr., 1000 Walnut Street, Philadelphia, April 27, and Mr. C. P. Patterson,

<sup>\*</sup> Monatsber, der K. Akad, zu Berlin, Sept., Oct., 1878.

PROC. AMER. PHILOS. SOC. XIX. 107. D. PRINTED JUNE 2, 1880.

26 May 7,

U. S. Coast and Geodetic Survey Office, Washington, D. C.,

April 21.

Letters of acknowledgment were received from L. Rütemeyer, Basel, May 20, 1880 (100,103); Society of Antiquaries, London, April 23, 1880 (103, 104); R. Astronomical Society, London, April 15, 1880 (103, 104); Victoria Institute, London, April 10, 1880 (103, 104); Royal Society of Edinburgh, Sep. 1879 (102); New Hampshire Historical Society, Concord, May 3, 1880 (105); Essex Institute, Salem, May 3 (105); New York Historical Society (105); New Jersey Historical Society, Newark, May 3 (105); Numismatic and Antiquarian Society of Philadelphia, May 3 (105), and Mr. Henry Phillips, Jr., Philadelphia, April 29 (105).

Also, Postals acknowledging the receipt of Proceedings No. 105 were received from the Museum of Comparative Zoölogy, Cambridge; Mr. Alex. Agassiz, Cambridge; Yale College Library, New Haven; the Astor Library, and American Ethnological Society, New York; Prof. J. J. Stevenson, New York; Historical Society, Philadelphia; Dr. T. Green, Easton; Mr. Wm. B. Taylor, Washington; Dr. Robert Peter, Lexington, Ky.; University of Cincinnati, Ohio, and the State Historical Society of Wisconsin, Madison.

Letters of Envoy were received from Dr. Geo. Engelmann, dated St. Louis, April 24, 1880, and the Department of the Interior, Washington, April 29, 1880.

A letter requesting some numbers of the Proceedings was received from the "Verein für Erdkunde" of Dresden, and was referred to the Secretaries with power to act.

Donations for the Library were received from the Governor General of India; Editor of the Zoologische Anzeiger, Leipsig; Dr. Hugo Von Meltzel; R. Accademia dei Lincei, Rome; Editor of the Revue Politique, Paris; Société de Géographie Commerciale, Bordeaux; Real Academia de la Historia, Madrid; Royal Astronomical Society, and Editors of Nature, London; Royal Society of Edinburgh; Essex

1880,]

Institute, Salem, Mass.; Boston Society of Natural History; Museum of Comparative Zoology, Cambridge; American Antiquarian Society, Worcester; American Journal, New Haven; American Chemical Society, N. Y.; Historical Society, Numismatic and Antiquarian Society, Franklin Institute, American Pharmaceutical Association, Editors of the Medical News, and Journal of Pharmacy, and Mr. Henry Phillips, Jr., Philadelphia; Dr. Albert S. Gatschet, Washington; Johns Hopkins University, and Editors of the Journal of Mathematics, Baltimore; Department of the Interior, Washington; University of Virginia; Editor of the American Antiquarian, Chicago; Dr. Geo. Engelmann, St. Louis, and the Ministerio de Fomento, Mexico.

Mr. Moncure Robinson read a biographical memoir of the late Michel Chevalier.

Mr. Henry Phillips, Jr., presented for the Proceedings a paper by Prof. E. D. Cope, entitled, "Second Contribution to the History of the Vertebrata of the Permian Formation of Texas."

Pending new nominations Nos. 904 and 909 to 916 were read.

The Committee on the Michaux Legacy reported that the portrait of F. A. Michaux had been copied, and that it was now in the room for the inspection of the members.

Mr. Fraley reported the receipt of the last quarterly interest on the Michaux Legacy, amounting to \$132.42.

The President suggested the desirability of the Society's now placing on its walls a portrait of Dr. Wood, deceased, the late President of the Society.

On motion of Mr. J. S. Price it was resolved, that a copy should be made for the Society, under the charge of the Hall Committee and the Curators.

The President reported that he had selected a delegation from the Society to represent it at the approaching Centennial of the American Academy of Arts and Sciences in Boston, and that six of those so appointed had signified their acceptance and would act in that capacity.

And the meeting was adjourned.